FIGURE 1

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	

```
TGGCCACTCC CTCTCTGCGC GCTCGCTCGC TCACTGAGGC CGGGCGACCA      50

AAGGTCGCCC GACGCCCGGG CTTTGCCCGG GCGGCCTCAG TGAGCGAGCG     100

AGCGCGCAGA GAGGGAGTGG CCAACTCCAT CACTAGGGGT TCCTCAGATC     150

TCTTTCTAAG TAAACAGTAC ATGAACCTTT ACCCCGTTGC TCGGCAACGG     200

CCTGGTCTGT GCCAAGTGTT TGCTGACGCA ACCCCCACTG GCTGGGGCTT     250

GGCCATAGGC CATCAGCGCA TGCGGATCTC AGTGTGGTTT GCAAGAGGA      300

AGCAAAAAGC CTCTCCACCC AGGCCTGGAA TGTTTCCACC CAATGTCGAG     350

CAGTGTGGTT TTGCAAGAGG AAGCAAAAAG CCTCTCCACC CAGGCCTGGA     400

CTCGAGAGCT TCGACCACCA TGCAAATAGA GCTCTCCACC TGCTTCTTTC     450
                      M  etGlnIleGl uLeuSerThr CysPhePheL
TGTGCCTTTT GCGATTCTGC TTTAGTGCCA CCAGAAGATA CTACCTGGGT     500
euCysLeuLe uArgPheCys PheSerAlaT hrArgArgTy rTyrLeuGly
GCAGTGGAAC TGTCATGGGA CTATATGCAA AGTGATCTCG GTGAGCTGCC     550
AlaValGluL euSerTrpAs pTyrMetGln SerAspLeuG lyGluLeuPr
TGTGGACGCA AGATTCCTC CTAGAGTGCC AAAATCTTTT CCATTCAACA      600
oValAspAla ArgPheProP roArgValPr oLysSerPhe ProPheAsnT
CCTCAGTCGT GTACAAAAAG ACTCTGTTTG TAGAATTCAC GGTTCACCTT     650
hrSerValVa lTyrLysLys ThrLeuPheV alGluPheTh rValHisLeu
TTCAACATCG CTAAGCCAAG GCCACCCTGG ATGGGTCTGC TAGGTCCTAC     700
PheAsnIleA laLysProAr gProProTrp MetGlyLeuL euGlyProTh
CATCCAGGCT GAGGTTTATG ATACAGTGGT CATTACACTT AAGAACATGG     750
rIleGlnAla GluValTyrA spThrValVa lIleThrLeu LysAsnMetA
CTTCCCATCC TGTCAGTCTT CATGCTGTTG GTGTATCCTA CTGGAAAGCT     800
laSerHisPr oValSerLeu HisAlaValG lyValSerTy rTrpLysAla
TCTGAGGGAG CTGAATATGA TGATCAGACC AGTCAAAGGG AGAAAGAAGA     850
SerGluGlyA laGluTyrAs pAspGlnThr SerGlnArgG luLysGluAs
TGATAAAGTC TTCCCTGGTG GAAGCCATAC ATATGTCTGG CAGGTCCTGA     900
pAspLysVal PheProGlyG lySerHisTh rTyrValTrp GlnValLeuL
AAGAGAATGG TCCAATGGCC TCTGACCCAC TGTGCCTTAC CTACTCATAT     950
ysGluAsnGl yProMetAla SerAspProL euCysLeuTh rTyrSerTyr
```

-1-

FIGURE 1 (cont.)

	10	20	30	40	50	
	1234567890	1234567890	1234567890	1234567890	1234567890	

```
CTTTCTCATG TGGACCTGGT AAAAGACTTG AATTCAGGCC TCATTGGAGC   1000
LeuSerHisV alAspLeuVa lLysAspLeu AsnSerGlyL euIleGlyAl

CCTACTAGTA TGTAGAGAAG GGAGTCTGGC CAAGGAAAAG ACACAGACCT   1050
aLeuLeuVal CysArgGluG lySerLeuAl aLysGluLys ThrGlnThrL

TGCACAAATT TATACTACTT TTTGCTGTAT TTGATGAAGG GAAAAGTTGG   1100
euHisLysPh eIleLeuLeu PheAlaValP heAspGluGl yLysSerTrp

CACTCAGAAA CAAAGAACTC CTTGATGCAG GATAGGGATG CTGCATCTGC   1150
HisSerGluT hrLysAsnSe rLeuMetGln AspArgAspA laAlaSerAl

TCGGGCCTGG CCTAAAATGC ACACAGTCAA TGGTTATGTA AACAGGTCTC   1200
aArgAlaTrp ProLysMetH isThrValAs nGlyTyrVal AsnArgSerL

TGCCAGGTCT GATTGGATGC CACAGGAAAT CAGTCTATTG GCATGTGATT   1250
euProGlyLe uIleGlyCys HisArgLysS erValTyrTr pHisValIle

GGAATGGGCA CCACTCCTGA AGTGCACTCA ATATTCCTCG AAGGTCACAC   1300
GlyMetGlyT hrThrProGl uValHisSer IlePheLeuG luGlyHisTh

ATTTCTTGTG AGGAACCATC GCCAGGCGTC CTTGGAAATC TCGCCAATAA   1350
rPheLeuVal ArgAsnHisA rgGlnAlaSe rLeuGluIle SerProIleT

CTTTCCTTAC TGCTCAAACA CTCTTGATGG ACCTTGGACA GTTTCTACTG   1400
hrPheLeuTh rAlaGlnThr LeuLeuMetA spLeuGlyGl nPheLeuLeu

TTTTGTCATA TCTCTTCCCA CCAACATGAT GGCATGGAAG CTTATGTCAA   1450
PheCysHisI leSerSerHi sGlnHisAsp GlyMetGluA laTyrValLy

AGTAGACAGC TGTCCAGAGG AACCCCAACT ACGAATGAAA AATAATGAAG   1500
sValAspSer CysProGluG luProGlnLe uArgMetLys AsnAsnGluG

AAGCGGAAGA CTATGATGAT GATCTTACTG ATTCTGAAAT GGATGTGGTC   1550
luAlaGluAs pTyrAspAsp AspLeuThrA spSerGluMe tAspValVal

AGGTTTGATG ATGACAACTC TCCTTCCTTT ATCCAAATTC GCTCAGTTGC   1600
ArgPheAspA spAspAsnSe rProSerPhe IleGlnIleA rgSerValAl

CAAGAAGCAT CCTAAAACTT GGGTACATTA CATTGCTGCT GAAGAGGAGG   1650
aLysLysHis ProLysThrT rpValHisTy rIleAlaAla GluGluGluA

ACTGGGACTA TGCTCCCTTA GTCCTCGCCC CCGATGACAG AAGTTATAAA   1700
spTrpAspTy rAlaProLeu ValLeuAlaP roAspAspAr gSerTyrLys

AGTCAATATT TGAACAATGG CCCTCAGCGG ATTGGTAGGA AGTACAAAAA   1750
SerGlnTyrL euAsnAsnGl yProGlnArg IleGlyArgL ysTyrLysLy

AGTCCGATTT ATGGCATACA CAGATGAAAC CTTTAAGACT CGTGAAGCTA   1800
sValArgPhe MetAlaTyrT hrAspGluTh rPheLysThr ArgGluAlaI

TTCAGCATGA ATCAGGAATC TTGGGACCTT TACTTTATGG GGAAGTTGGA   1850
leGlnHisGl uSerGlyIle LeuGlyProL euLeuTyrGl yGluValGly

GACACACTGT TGATTATATT TAAGAATCAA GCAAGCAGAC CATATAACAT   1900
AspThrLeuL euIleIlePh eLysAsnGln AlaSerArgP roTyrAsnIl
```

FIGURE 1 (cont.)

	10	20	30	40	50	
	1234567890	1234567890	1234567890	1234567890	1234567890	

```
CTACCCTCAC GGAATCACTG ATGTCCGTCC TTTGTATTCA AGGAGATTAC   1950
eTyrProHis GlyIleThrA spValArgPr oLeuTyrSer ArgArgLeuP
CAAAAGGTGT AAAACATTTG AAGGATTTTC CAATTCTGCC AGGAGAAATA   2000
roLysGlyVa lLysHisLeu LysAspPheP roIleLeuPr oGlyGluIle
TTCAAATATA AATGGACAGT GACTGTAGAA GATGGGCCAA CTAAATCAGA   2050
PheLysTyrL ysTrpThrVa lThrValGlu AspGlyProT hrLysSerAs
TCCTCGGTGC CTGACCCGCT ATTACTCTAG TTTCGTTAAT ATGGAGAGAG   2100
pProArgCys LeuThrArgT yrTyrSerSe rPheValAsn MetGluArgA
ATCTAGCTTC AGGACTCATT GGCCCTCTCC TCATCTGCTA CAAAGAATCT   2150
spLeuAlaSe rGlyLeuIle GlyProLeuL euIleCysTy rLysGluSer
GTAGATCAAA GAGGAAACCA GATAATGTCA GACAAGAGGA ATGTCATCCT   2200
ValAspGlnA rgGlyAsnGl nIleMetSer AspLysArgA snValIleLe
GTTTCTGTA TTTGATGAGA ACCGAAGCTG GTACCTCACA GAGAATATAC   2250
uPheSerVal PheAspGluA snArgSerTr pTyrLeuThr GluAsnIleG
AACGCTTTCT CCCCAATCCA GCTGGAGTGC AGCTTGAGGA TCCAGAGTTC   2300
lnArgPheLe uProAsnPro AlaGlyValG lnLeuGluAs pProGluPhe
CAAGCCTCCA ACATCATGCA CAGCATCAAT GGCTATGTTT TTGATAGTTT   2350
GlnAlaSerA snIleMetHi sSerIleAsn GlyTyrValP heAspSerLe
GCAGTTGTCA GTTTGTTTGC ATGAGGTGGC ATACTGGTAC ATTCTAAGCA   2400
uGlnLeuSer ValCysLeuH isGluValAl aTyrTrpTyr IleLeuSerI
TTGGAGCACA GACTGACTTC CTTTCTGTCT TCTTCTCTGG ATATACCTTC   2450
leGlyAlaGl nThrAspPhe LeuSerValP hePheSerGl yTyrThrPhe
AAACACAAAA TGGTCTATGA AGACACACTC ACCCTATTCC CATTCTCAGG   2500
LysHisLysM etValTyrGl uAspThrLeu ThrLeuPheP roPheSerGl
AGAAACTGTC TTCATGTCGA TGGAAAACCC AGGTCTATGG ATTCTGGGGT   2550
yGluThrVal PheMetSerM etGluAsnPr oGlyLeuTrp IleLeuGlyC
GCCACAACTC AGACTTTCGG AACAGAGGCA TGACCGCCTT ACTGAAGGTT   2600
ysHisAsnSe rAspPheArg AsnArgGlyM etThrAlaLe uLeuLysVal
TCTAGTTGTG ACAAGAACAC TGGTGATTAT TACGAGGACA GTTATGAAGA   2650
SerSerCysA spLysAsnTh rGlyAspTyr TyrGluAspS erTyrGluAs
TATTTCAGCA TACTTGCTGA GTAAAAACAA TGCCATTGAA CCAAGAAGCT   2700
pIleSerAla TyrLeuLeuS erLysAsnAs nAlaIleGlu ProArgSerP
TCTCCCAGAA TTCAAGACAC CCTAGCACTA GGCAAAAGCA ATTTAATGCC   2750
heSerGlnAs nSerArgHis ProSerThrA rgGlnLysGl nPheAsnAla
ACCCCACCAG TCTTGAAACG CCATCAACGG GAAATAACTC GTACTACTCT   2800
ThrProProV alLeuLysAr gHisGlnArg GluIleThrA rgThrThrLe
TCAGTCAGAT CAAGAGGAAA TTGACTATGA TGATACCATA TCAGTTGAAA   2850
uGlnSerAsp GlnGluGluI leAspTyrAs pAspThrIle SerValGluM
```

FIGURE 1 (cont.)

```
          10          20          30          40          50
 1234567890 1234567890 1234567890 1234567890 1234567890
 TGAAGAAGGA AGATTTTGAC ATTTATGATG AGGATGAAAA TCAGAGCCCC
 etLysLysGl uAspPheAsp IleTyrAspG luAspGluAs nGlnSerPro    2900
 CGCAGCTTTC AAAAGAAAAC ACGACACTAT TTTATTGCTG CAGTGGAGAG
 ArgSerPheG lnLysLysTh rArgHisTyr PheIleAlaA laValGluAr    2950
 GCTCTGGGAT TATGGGATGA GTAGCTCCCC ACATGTTCTA AGAAACAGGG
 gLeuTrpAsp TyrGlyMetS erSerSerPr oHisValLeu ArgAsnArgA    3000
 CTCAGAGTGG CAGTGTCCCT CAGTTCAAGA AAGTTGTTTT CCAGGAATTT
 laGlnSerGl ySerValPro GlnPheLysL ysValValPh eGlnGluPhe    3050
 ACTGATGGCT CCTTTACTCA GCCCTTATAC CGTGGAGAAC TAAATGAACA
 ThrAspGlyS erPheThrGl nProLeuTyr ArgGlyGluL euAsnGluHi    3100
 TTTGGACTC CTGGGGCCAT ATATAAGAGC AGAAGTTGAA GATAATATCA
 sLeuGlyLeu LeuGlyProT yrIleArgAl aGluValGlu AspAsnIleM    3150
 TGGTAACTTT CAGAAATCAG GCCTCTCGTC CCTATTCCTT CTATTCTAGC
 etValThrPh eArgAsnGln AlaSerArgP roTyrSerPh eTyrSerSer    3200
 CTTATTTCTT ATGAGGAAGA TCAGAGGCAA GGAGCAGAAC CTAGAAAAAA
 LeuIleSerT yrGluGluAs pGlnArgGln GlyAlaGluP roArgLysAs    3250
 CTTTGTCAAG CCTAATGAAA CCAAAACTTA CTTTTGGAAA GTGCAACATC
 nPheValLys ProAsnGluT hrLysThrTy rPheTrpLys ValGlnHisH    3300
 ATATGGCACC CACTAAAGAT GAGTTTGACT GCAAAGCCTG GGCTTATTTC
 isMetAlaPr oThrLysAsp GluPheAspC ysLysAlaTr pAlaTyrPhe    3350
 TCTGATGTTG ACCTGGAAAA AGATGTGCAC TCAGGCCTGA TTGGACCCCT
 SerAspValA spLeuGluLy sAspValHis SerGlyLeuI leGlyProLe    3400
 TCTGGTCTGC CACACTAACA CACTGAACCC TGCTCATGGG AGACAAGTGA
 uLeuValCys HisThrAsnT hrLeuAsnPr oAlaHisGly ArgGlnValT    3450
 CAGTACAGGA ATTTGCTCTG TTTTTCACCA TCTTTGATGA GACCAAAAGC
 hrValGlnGl uPheAlaLeu PhePheThrI lePheAspGl uThrLysSer    3500
 TGGTACTTCA CTGAAAATAT GGAAAGAAAC TGCAGGGCTC CCTGCAATAT
 TrpTyrPheT hrGluAsnMe tGluArgAsn CysArgAlaP roCysAsnIl    3550
 CCAGATGGAA GATCCCACTT TTAAAGAGAA TTATCGCTTC CATGCAATCA
 eGlnMetGlu AspProThrP heLysGluAs nTyrArgPhe HisAlaIleA    3600
 ATGGCTACAT AATGGATACA CTACCTGGCT TAGTAATGGC TCAGGATCAA
 snGlyTyrIl eMetAspThr LeuProGlyL euValMetAl aGlnAspGln    36
 AGGATTCGAT GGTATCTGCT CAGCATGGGC AGCAATGAAA ACATCC
 ArgIleArgT rpTyrLeuLe uSerMetGly SerAsnGluA snIl       3800
 TATTCATTTC AGTGGACATG TGTTCACTGT ACGAAAAAA
 rIleHisPhe SerGlyHisV alPheThrVa lArgLys
 AAATGGCACT GTACAATCTC TATCCAGGTG TTT
 ysMetAlaLe uTyrAsnLeu TyrProGlyV a
```

FIGURE 1 (cont.)

	10	20	30	40	50	
	1234567890	1234567890	1234567890	1234567890	1234567890	

```
TTACCATCCA AAGCTGGAAT TTGGCGGGTG GAATGCCTTA TTGGCGAGCA    3850
LeuProSerL ysAlaGlyIl eTrpArgVal GluCysLeuI leGlyGluHi

TCTACATGCT GGGATGAGCA CACTTTTTCT GGTGTACAGC AATAAGTGTC    3900
sLeuHisAla GlyMetSerT hrLeuPheLe uValTyrSer AsnLysCysG

AGACTCCCCT GGGAATGGCT TCTGGACACA TTAGAGATTT TCAGATTACA    3950
lnThrProLe uGlyMetAla SerGlyHisI leArgAspPh eGlnIleThr

GCTTCAGGAC AATATGGACA GTGGGCCCCA AAGCTGGCCA GACTTCATTA    4000
AlaSerGlyG lnTyrGlyGl nTrpAlaPro LysLeuAlaA rgLeuHisTy

TTCCGGATCA ATCAATGCCT GGAGCACCAA GGAGCCCTTT TCTTGGATCA    4050
rSerGlySer IleAsnAlaT rpSerThrLy sGluProPhe SerTrpIleL

AGGTGGATCT GTTGGCACCA ATGATTATTC ACGGCATCAA GACCCAGGGT    4100
ysValAspLe uLeuAlaPro MetIleIleH isGlyIleLy sThrGlnGly

GCCCGTCAGA AGTTCTCCAG CCTCTACATC TCTCAGTTTA TCATCATGTA    4150
AlaArgGlnL ysPheSerSe rLeuTyrIle SerGlnPheI leIleMetTy

TAGTCTTGAT GGGAAGAAGT GGCAGACTTA TCGAGGAAAT TCCACTGGAA    4200
rSerLeuAsp GlyLysLysT rpGlnThrTy rArgGlyAsn SerThrGlyT

CCTTAATGGT CTTCTTTGGC AATGTGGATT CATCTGGGAT AAAACACAAT    4250
hrLeuMetVa lPhePheGly AsnValAspS erSerGlyIl eLysHisAsn

ATTTTTAACC CTCCAATTAT TGCTCGATAC ATCCGTTTGC ACCCAACTCA    4300
IlePheAsnP roProIleIl eAlaArgTyr IleArgLeuH isProThrHi

TTATAGCATT CGCAGCACTC TTCGCATGGA GTTGATGGGC TGTGATTTAA    4350
sTyrSerIle ArgSerThrL euArgMetGl uLeuMetGly CysAspLeuA

ATAGTTGCAG CATGCCATTG GGAATGGAGA GTAAAGCAAT ATCAGATGCA    4400
snSerCysSe rMetProLeu GlyMetGluS erLysAlaIl eSerAspAla

CAGATTACTG CTTCATCCTA CTTTACCAAT ATGTTTGCCA CCTGGTCTCC    4450
GlnIleThrA laSerSerTy rPheThrAsn MetPheAlaT hrTrpSerPr

TTCAAAAGCT CGACTTCACC TCCAAGGGAG GAGTAATGCC TGGAGACCTC    4500
oSerLysAla ArgLeuHisL euGlnGlyAr gSerAsnAla TrpArgProG

AGGTGAATAA TCCAAAAGAG TGGCTGCAAG TGGACTTCCA GAAGACAATG    4550
lnValAsnAs nProLysGlu TrpLeuGlnV alAspPheGl nLysThrMet

AAAGTCACAG GAGTAACTAC TCAGGGAGTA AAATCTCTGC TTACCAGCAT    4600
LysValThrG lyValThrTh rGlnGlyVal LysSerLeuL euThrSerMe

GTATGTGAAG GAGTTCCTCA TCTCCAGCAG TCAAGATGGC CATCAGTGGA    4650
tTyrValLys GluPheLeuI leSerSerSe rGlnAspGly HisGlnTrpT

CTCTCTTTTT TCAGAATGGC AAAGTAAAGG TTTTTCAGGG AAATCAAGAC    4700
hrLeuPhePh eGlnAsnGly LysValLysV alPheGlnGl yAsnGlnAsp

TCCTTCACAC CTGTGGTGAA CTCTCTAGAC CCACCGTTAC TGACTCGCTA    4750
SerPheThrP roValValAs nSerLeuAsp ProProLeuL euThrArgTy
```

FIGURE 1 (cont.)

```
          10         20         30         40         50
 1234567890 1234567890 1234567890 1234567890 1234567890
 CCTTCGAATT CACCCCCAGA GTTGGGTGCA CCAGATTGCC CTGAGGATGG    4800
 rLeuArgIle HisProGlnS erTrpValHi sGlnIleAla LeuArgMetG
 AGGTTCTGGG CTGCGAGGCA CAGGACCTCT ACTGACTCGA GCGAGTTCTT    4850
 luValLeuGl yCysGluAla GlnAspLeuT yr...
 CTGAGGGGAT CGGCAATAAA AAGACAGAAT AAAACGCACG GGTGTTGGGT    4900

 CGTTTGTTCG GATCCAGATC TAGGAACCCC TAGTGATGGA GTTGGCCACT    4950

 CCCTCTCTGC CGGCTCGCTC GCTCACTGAG GCCGCCCGGG CAAAGCCCGG    5000

 GCGTCGGGCG ACCTTTGGTC GCCCGGCCTC AGTGAGCGAG CGAGCGCGCA    5050

 GAGAGGGAGT GGCCAACCCC CCCCCCCCCC CCCCTGCAGC CCAGCTGCAT    5100

 TAATGAATCG GCCAACGCGC GGGGAGAGGC GGTTTGCGTA TTGGGCGCTC    5150

 TTCCGCTTCC TCGCTCACTG ACTCGCTGCG CTCGGTCGTT CGGCTGCGGC    5200

 GAGCGGTATC AGCTCACTCA AAGGCGGTAA TACGGTTATC CACAGAATCA    5250

 GGGGATAACG CAGGAAAGAA CATGTGAGCA AAAGGCCAGC AAAAGGCCAG    5300

 GAACCGTAAA AAGGCCGCGT TGCTGGCGTT TTTCCATAGG CTCCGCCCCC    5350

 CTGACGAGCA TCACAAAAAT CGACGCTCAA GTCAGAGGTG GCGAAACCCG    5400

 ACAGGACTAT AAAGATACCA GGCGTTTCCC CCTGGAAGCT CCCTCGTGCG    5450

 CTCTCCTGTT CCGACCCTGC CGCTTACCGG ATACCTGTCC GCCTTTCTCC    5500

 CTTCGGGAAG CGTGGCGCTT TCTCAATGCT CACGCTGTAG GTATCTCAGT    5550

 TCGGTGTAGG TCGTTCGCTC CAAGCTGGGC TGTGTGCACG AACCCCCCGT    5600

 TCAGCCCGAC CGCTGCGCCT TATCCGGTAA CTATCGTCTT GAGTCCAACC    5650

 CGGTAAGACA CGACTTATCG CCACTGGCAG CAGCCACTGG TAACAGGATT    5700
```

FIGURE 1 (cont.)

```
        10         20         30         40         50
1234567890 1234567890 1234567890 1234567890 1234567890
AGCAGAGCGA GGTATGTAGG CGGTGCTACA GAGTTCTTGA AGTGGTGGCC   5750

TAACTACGGC TACACTAGAA GGACAGTATT TGGTATCTGC GCTCTGCTGA   5800

AGCCAGTTAC CTTCGGAAAA AGAGTTGGTA GCTCTTGATC CGGCAAACAA   5850

ACCACCGCTG GTAGCGGTGG TTTTTTTGTT TGCAAGCAGC AGATTACGCG   5900

CAGAAAAAAA GGATCTCAAG AAGATCCTTT GATCTTTTCT ACGGGGTCTG   5950

ACGCTCAGTG GAACGAAAAC TCACGTTAAG GGATTTTGGT CATGAGATTA   6000

TCAAAAAGGA TCTTCACCTA GATCCTTTTA AATTAAAAAT GAAGTTTTAA   6050

ATCAATCTAA AGTATATATG AGTAAACTTG GTCTGACAGT TACCAATGCT   6100
                                                ylGelIreS
TAATCAGTGA GGCACCTATC TCAGCGATCT GTCTATTTCG TTCATCCATA   6150
ueL...siHo rPlaV...gr AueLreSgrA psAelIulGn sAteMprTue
GTTGCCTGAC TCCCCGTCGT GTAGATAACT ACGATACGGG AGGGCTTACC   6200
LnlGgrAlaV ylGgrAgrAr hTreSueL.. .reSlaVorP orPreSlaVt
ATCTGGCCCC AGTGCTGCAA TGATACCGCG AGACCCACGC TCACCGGCTC   6250
eMnlGylGpr TsiHnlGueL reSlaValAu eLylGlaVre SlaVorPulG
CAGATTTATC AGCAATAAAC CAGCCAGCCG GAAGGGCCGA GCGCAGAAGT   6300
ueLnsAelIu eLueLueLyl GalAueLgrA ehPorPgrAa lAsyCehPsi
GGTCCTGCAA CTTTATCCGC CTCCATCCAG TCTATTAATT GTTGCCGGGA   6350
HpsAnlGueL syLelIgrAg rAprTylGrh T......nsA nsAylGorPu
AGCTAGAGTA AGTAGTTCGC CAGTTAATAG TTTGCGCAAC GTTGTTGCCA   6400
eL...ueLue LryTnsAalA ueL...ryTn sAalAsyCgr AnlGnlGprT
TTGCTACAGG CATCGTGGTG TCACGCTCGT CGTTTGGTAT GGCTTCATTC   6450
nlG...ueLs yCgrAorPrh TlaVreSrhT rhTnlGryTo rPsyLteM..
AGCTCCGGTT CCCAACGATC AAGGCGAGTT ACATGATCCC CCATGTTGTG   6500
.reSgrAnsA ylGlaVelIu eLalAueL.. .teMelIylG prTrhTrhTs
CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC AGAAGTAAGT   6550
yCehPueLor P...reSgrA grApsAulGr eSgrAnlG.. .ehPryTrhT
TGGCCGCAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT   6600
orPgrAueLr hTelIlaV.. .orP...orP ueLlaValAr yTnsAulG..
ACTGTCATGC CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC   6650
.nlG...alA teMgrAueLe lIreSsyLnl GreSnlGsiH rhTreSueLp
```

FIGURE 1 (cont.)

```
              10         20         30         40         50
         1234567890 1234567890 1234567890 1234567890 1234567890
         CAAGTCATTC TGAGAATAGT GTATGCGGCG ACCGAGTTGC TCTTGCCCGG   6700
         rTrhTteMgr AueLelIrhT ryTalAalAl aVreSnsAre SsyLylGorP
         CGTCAATACG GGATAATACC GCGCCACATA GCAGAACTTT AAAAGTGCTC   6750
         rhTueLlaVo rPryTryTgr AalAlaVryT syCehPsyLu eLueLalA..
         ATCATTGGAA AACGTTCTTC GGGGCGAAAA CTCTCAAGGA TCTTACCGCT   6800
         ....nlGehP laVnsAsyLo rPalAehPla VgrAueLreS grAlaValAr
         GTTGAGATCC AGTTCGATGT AACCCACTCG TGCACCCAAC TGATCTTCAG   6850
         hTreSelIpr TnsAreSrhT laVprTulGs iHlaVprTre SelIsyLueL
         CATCTTTTAC TTTCACCAGC GTTTCTGGGT GAGCAAAAAC AGGAAGGCAA   6900
         teMsyL...s yL...prTgr AsyLnlGrhT ueLueLehPu eLehPalAeh
         AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT   6950
         PsiHgrAueL ehPorPehPu eLorPreSla VreSelInsA ehPlaV...l
         ACTCTTCCTT TTTCAATATT ATTGAAGCAT TTATCAGGGT TATTGTCTCA   7000

         TGAGCGGATA CATATTTGAA TGTATTTAGA AAAATAAACA AATAGGGGTT   7050

         CCGCGCACAT TTCCCCGAAA AGTGCCACCT GACGTCTAAG AAACCATTAT   7100

         TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG CCCTTTCGTC   7150

         TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGCTCCCG   7200

         GAGACGGTCA CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA GACAAGCCCG   7250

         TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGCTGG CTTAACTATG   7300

         CGGCATCAGA GCAGATTGTA CTGAGAGTGC ACCATATGCG GTGTGAAATA   7350

         CCGCACAGAT GCGTAAGGAG AAAATACCGC ATCAGGAAAT TGTAAACGTT   7400

         AATATTTTGT TAAAATTCGC GTTAAATTTT TGTTAAATCA GCTCATTTTT   7450

         TAACCAATAG GCCGAAATCG GCAAAATCCC TTATAAATCA AAAGAATAGA   7500

         CCGAGATAGG GTTGAGTGTT GTTCCAGTTT GGAACAAGAG TCCACTATTA   7550

         AAGAACGTGG ACTCCAACGT CAAAGGGCGA AAAACCGTCT ATCAGGGCGA   7600
```

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FIGURE 1 (cont.)

```
          10         20         30         40         50
 1234567890 1234567890 1234567890 1234567890 1234567890
TGGCCCACTA CGTGAACCAT CACCCTAATC AAGTTTTTTG GGGTCGAGGT    7650

GCCGTAAAGC ACTAAATCGG AACCCTAAAG GGAGCCCCCG ATTTAGAGCT    7700

TGACGGGGAA AGCCGGCGAA CGTGGCGAGA AAGGAAGGGA AGAAAGCGAA    7750

AGGAGCGGGC GCTAGGGCGC TGGCAAGTGT AGCGGTCACG CTGCGCGTAA    7800

CCACCACACC CGCCGCGCTT AATGCGCCGC TACAGGGCGC GTCGCGCCAT    7850

TCGCCATTCA GGCTACGCAA CTGTTGGGAA GGGCGATCGG TGCGGGCCTC    7900

TTCGCTATTA CGCCAGCTGG CTGCAGGGGG GGGGGGGGGG GGGT          7944
```

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FIGURE 2

pDLZ2.

4965bp

ITR   Spacer   BDDhFVIII cDNA   P(A) ITR

pDLZ6.

5089bp

4450bp

ITR EnhI Spacer   BDDhFVIII cDNA   P(A) ITR

FIGURE 3

FIGURE 4-A

FIGURE 4-B

Y-axis: hFVIII (ng/ml) — 10, 20, 30, 40, 50, 60

X-axis: Days Post-injection of AAV — 0, 5, 10, 15, 20, 25, 30, 35

FIGURE 5-A

5' primer

3' primer

FIGURE 5-B

450 bp

Muscle
Spinal cord
Brain
Lungs
Heart
Lymph node
Intestine
Testis
Kidney
Spleen
Liver/LD
Liver/HD
0.001 copy/cell
0.02copies/cell
0.25copies/cell
1copy/cell
5 copies/cell

FIGURE 5-C

— 534 bp

FIGURE 5-D

FIGURE 5-E

Sph I ← 4.6 kb → Sph I

FIGURE 5-F

— 4.6 kb

Hirt: 10 ng, 20 ng

HMW: 10 μg, 20 μg

plasmid number/cell: 0.02 copies, 0.2 copies, 1.0 copy, 5.0 copies

FIGURE 6

```
              10          20          30          40          50
         1234567890 1234567890 1234567890 1234567890 1234567890

         TGGCCACTCC CTCTCTGCGC GCTCGCTCGC TCACTGAGGC CGGGCGACCA    50

         AAGGTCGCCC GACGCCCGGG CTTTGCCCGG GCGGCCTCAG TGAGCGAGCG   100

         AGCGCGCAGA GAGGGAGTGG CCAACTCCAT CACTAGGGGT TCCTCAGATC   150

         TCTTTCTAAG TAAACAGTAC ATGAACCTTT ACCCCGTTGC TCGGCAACGG   200

         CCTGGTCTGT GCCAAGTGTT TGCTGACGCA ACCCCCACTG GCTGGGGCTT   250

         GGCCATAGGC CATCAGCGCA TGCGGATCTC AGTGTGGTTT TGCAAGAGGA   300

         AGCAAAAAGC CTCTCCACCC AGGCCTGGAA TGTTTCCACC CAATGTCGAG   350

         CAGTGTGGTT TTGCAAGAGG AAGCAAAAAG CCTCTCCACC CAGGCCTGGA   400

         CTCGACCTCG AGAGTACTTC TAGAAATACG AGCCATGCAA GTAGAGCTCT   450
                                            MetGln  ValGluLeuT
         ACACCTGCTG CTTTCTGTGC CTTTTGCCCT TCAGCCTTAG TGCCACCAGA   500
         yrThrCysCy sPheLeuCys LeuLeuProP heSerLeuSe rAlaThrArg
         AAATACTACC TCGGTGCAGT GGAACTGTCC TGGGACTATA TGCAAAGTGA   550
         LysTyrTyrL euGlyAlaVa lGluLeuSer TrpAspTyrM etGlnSerAs
         CCTGCTCAGT GCGCTGCACG CGGATACAAG CTTTTCTTCC AGGGTGCCAG   600
         pLeuLeuSer AlaLeuHisA laAspThrSe rPheSerSer ArgValProG
         GATCTTTGCC ACTCACCACG TCAGTCACGT ACAGAAAGAC TGTGTTTGTA   650
         lySerLeuPr oLeuThrThr SerValThrT yrArgLysTh rValPheVal
         GAGTTACAG ATGACCTTTT CAACATTGCC AAGCCCAGGC CACCGTGGAT   700
         GluPheThrA spAspLeuPh eAsnIleAla LysProArgP roProTrpMe
         GGGCCTGCTG GGTCCTACCA TCCAGGCTGA GGTTTATGAC ACAGTGGTCA   750
         tGlyLeuLeu GlyProThrI leGlnAlaGl uValTyrAsp ThrValValI
         TTGTCCTTAA GAACATGGCT CTCATCCTG TCAGCCTTCA CGCTGTTGGT   800
         leValLeuLy sAsnMetAla SerHisProV alSerLeuHi sAlaValGly
         GTATCCTATT GGAAAGCTTC TGAAGGTGCT GAGTATGAGG ATCAGACCAG   850
         ValSerTyrT rpLysAlaSe rGluGlyAla GluTyrGluA spGlnThrSe
         CCAAAAGGAG AAGGAAGATG ATAATGTCAT TCCTGGTGAA AGCCATACCT   900
         rGlnLysGlu LysGluAspA spAsnValIl eProGlyGlu SerHisThrT
         ATGTCTGGCA GGTCCTGAAA GAGAATGGCC CAATGGCCTC TGATCCACCA   950
         yrValTrpGl nValLeuLys GluAsnGlyP roMetAlaSe rAspProPro
```

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	10	20	30	40	50	
	1234567890	1234567890	1234567890	1234567890	1234567890	

```
TGTCTCACCT ACTCATATTT TTCACACGTG GACCTGGTGA AAGACCTGAA   1000
CysLeuThrT yrSerTyrPh eSerHisVal AspLeuValL ysAspLeuAs

TTCAGGCCTC ATTGGAGCCC TGCTGGTTTG CAAAGAAGGG AGTCTGGCCA   1050
nSerGlyLeu IleGlyAlaL euLeuValCy sLysGluGly SerLeuAlaL

AAGAAAGGAC ACAGACCTTG CAGGAATTTG TCCTACTTTT TGCTGTATTT   1100
ysGluArgTh rGlnThrLeu GlnGluPheV alLeuLeuPh eAlaValPhe

GATGAAGGGA AAAGTTGGCA CTCAGAAACA AATGCGTCTT TGACACAGGC   1150
AspGluGlyL ysSerTrpHi sSerGluThr AsnAlaSerL euThrGlnAl

TGAGGCCCAG CATGAGCTGC ACACCATCAA TGGCTATGTA AACAGGTCTC   1200
aGluAlaGln HisGluLeuH isThrIleAs nGlyTyrVal AsnArgSerL

TGCCAGGTCT TACTGTGTGT CACAAGAGAT CAGTCTATTG GCATGTGATT   1250
euProGlyLe uThrValCys HisLysArgS erValTyrTr pHisValIle

GGAATGGGCA CCACCCCCGA AGTGCACTCA ATTTTTCTCG AAGGTCACAC   1300
GlyMetGlyT hrThrProGl uValHisSer IlePheLeuG luGlyHisTh

ATTTCTTGTG AGGAACCACC GCCAGGCCTC CTTGGAGATC TCACCAATTA   1350
rPheLeuVal ArgAsnHisA rgGlnAlaSe rLeuGluIle SerProIleT

CTTTCCTTAC TGCTCAGACA TTCCTGATGG ACCTTGGCCA GTTTCTACTG   1400
hrPheLeuTh rAlaGlnThr PheLeuMetA spLeuGlyGl nPheLeuLeu

TTTTGTCATA TCCCTTCCCA TCAACATGAT GGTATGGAAG CTTATGTCAA   1450
PheCysHisI leProSerHi sGlnHisAsp GlyMetGluA laTyrValLy

AGTAGATAGC TGCCCAGAGG AACCCCAGCT GCGCATGAAA AATAATGAAG   1500
sValAspSer CysProGluG luProGlnLe uArgMetLys AsnAsnGluA

ATAAAGATTA TGATGATGGT CTTTATGATT CTGACATGGA CGTAGTTAGC   1550
spLysAspTy rAspAspGly LeuTyrAspS erAspMetAs pValValSer

TTTGATGACG ACAGCTCTTC TCCCTTTATC CAAATCCGCT CAGTTGCCAA   1600
PheAspAspA spSerSerSe rProPheIle GlnIleArgS erValAlaLy

GAAGCATCCT AAAACTTGGG TCCACTATAT TGCTGCTGAG GAGGAGGACT   1650
sLysHisPro LysThrTrpV alHisTyrIl eAlaAlaGlu GluGluAspT

GGGACTATGC TCCCTCAGGC CCCACCCCCA ATGATAGAAG TCATAAAAAT   1700
rpAspTyrAl aProSerGly ProThrProA snAspArgSe rHisLysAsn

CTGTATTTGA ACAATGGTCC TCAGCGGATT GGTAAGAAGT ACAAAAAAGT   1750
LeuTyrLeuA snAsnGlyPr oGlnArgIle GlyLysLysT yrLysLysVa

CCGATTTGTG GCATACACAG ATGAGACATT TAAGACTCGT GAAGCTATTC   1800
lArgPheVal AlaTyrThrA spGluThrPh eLysThrArg GluAlaIleG

AGTATGAATC AGGAATCCTG GGACCTTTAC TTTATGGAGA AGTTGGAGAC   1850
lnTyrGluSe rGlyIleLeu GlyProLeuL euTyrGlyGl uValGlyAsp

ACACTGCTGA TTATATTTAA GAATCAAGCC AGCCGGCCAT ATAACATCTA   1900
ThrLeuLeuI leIlePheLy sAsnGlnAla SerArgProT yrAsnIleTy
```

FIGURE 6 (cont.)

```
            10         20         30         40         50
        1234567890 1234567890 1234567890 1234567890 1234567890
        CCCTCATGGG ATCAATTATG TCACTCCTCT GCACACAGGG AGATTGCCAA   1950
        rProHisGly IleAsnTyrV alThrProLe uHisThrGly ArgLeuProL
        AAGGTGTGAA ACATTTGAAA GATATGCCAA TTCTGCCGGG AGAGATATTC   2000
        ysGlyValLy sHisLeuLys AspMetProI leLeuProGl yGluIlePhe
        AAGTATAAAT GGACAGTGAC CGTAGAAGAT GGACCAACTA AATCAGATCC   2050
        LysTyrLysT rpThrValTh rValGluAsp GlyProThrL ysSerAspPr
        TCGGTGCCTG ACCGGATATT ACTCAAGCTT CATTAATCTG GAGAGAGATC   2100
        oArgCysLeu ThrArgTyrT yrSerSerPh eIleAsnLeu GluArgAspL
        TAGCTTCAGG ACTCATTGGC CCTCTTCTCA TCTGCTACAA AGAATCTGTA   2150
        euAlaSerGl yLeuIleGly ProLeuLeuI leCysTyrLy sGluSerVal
        GATCAAAGAG GAAACCAGAT GATGTCAGAC AAGAGAAATG TCATCCTGTT   2200
        AspGlnArgG lyAsnGlnMe tMetSerAsp LysArgAsnV alIleLeuPh
        TTCTGTATTT GATGAGAATC GAAGCTGGTA CCTCACAGAG AATATGCAGC   2250
        eSerValPhe AspGluAsnA rgSerTrpTy rLeuThrGlu AsnMetGlnA
        GCTTCCTCCC CAATGCAGAT GTAGTGCAGC CCCATGACCC AGAGTTCCAA   2300
        rgPheLeuPr oAsnAlaAsp ValValGlnP roHisAspPr oGluPheGln
        CTCTCTAACA TCATGCACAG CATCAATGGC TATGTTTTTG ACAACTTGCA   2350
        LeuSerAsnI leMetHisSe rIleAsnGly TyrValPheA spAsnLeuGl
        GCTGTCAGTT TGTTTGCATG AGGTGGCGTA CTGGTACATT CTAAGTGTTG   2400
        nLeuSerVal CysLeuHisG luValAlaTy rTrpTyrIle LeuSerValG
        GAGCACAAAC TGACTTCCTG TCTGTCTTCT TCTCTGGATA TACCTTCAAA   2450
        lyAlaGlnTh rAspPheLeu SerValPheP heSerGlyTy rThrPheLys
        CACAAAATGG TCTATGAAGA CACACTTACC CTCTTCCCAT TCTCAGGAGA   2500
        HisLysMetV alTyrGluAs pThrLeuThr LeuPheProP heSerGlyGl
        AACTGTCTTC ATGTCAATGG AAAACCCAGG TCTGTGGGTT CTGGGGTGCC   2550
        uThrValPhe MetSerMetG luAsnProGl yLeuTrpVal LeuGlyCysH
        ACAACTCAGA CTTTCGGAAC AGAGGCATGA CAGCCTTACT GAAGGTTTCT   2600
        isAsnSerAs pPheArgAsn ArgGlyMetT hrAlaLeuLe uLysValSer
        AGTTGTAACA GGAACATTGA TGATTATTAT GAGGACACAT ACGAAGATAT   2650
        SerCysAsnA rgAsnIleAs pAspTyrTyr GluAspThrT yrGluAspIl
        TCCAACTCCC CTGCTAAATG AAAACAATGT AATTAAACCT AGAAGCTTCT   2700
        eProThrPro LeuLeuAsnG luAsnAsnVa lIleLysPro ArgSerPheS
        CCCAGAATTC AAGGCACCCT AGCACTAAGG AAAGCAATT GAAAATGAAG    2750
        erGlnAsnSe rArgHisPro SerThrLysG luLysGlnLe uLysMetLys
        AGAGAAGATT TTGACATCTA CGGCGACTAT GAAAATCAGG GCCTCCGCAG   2800
        ArgGluAspP heAspIleTy rGlyAspTyr GluAsnGlnG lyLeuArgSe
        CTTTCAAAAG AAAACACGAC ACTATTTCAT TGCTGCAGTG GAGCGTCTCT   2850
        rPheGlnLys LysThrArgH isTyrPheIl eAlaAlaVal GluArgLeuT
```

FIGURE 6 (cont.)

```
              10         20         30         40         50
         1234567890 1234567890 1234567890 1234567890 1234567890
```

GGGATTATGG	GATGAGTAGA	TCTCCCCATA	TACTAAGAAA	CAGGGCTCAA	2900
rpAspTyrGl	yMetSerArg	SerProHisI	leLeuArgAs	nArgAlaGln	
AGTGGGGATG	TCCAGCAGTT	CAAGAAGGTG	GTTTTCCAGG	AATTTACTGA	2950
SerGlyAspV	alGlnGlnPh	eLysLysVal	ValPheGlnG	luPheThrAs	
TGGATCCTTT	ACTCAGCCCT	TATACCGTGG	AGAACTGAAT	GAACACTTGG	3000
pGlySerPhe	ThrGlnProL	euTyrArgGl	yGluLeuAsn	GluHisLeuG	
GACTCTTGGG	GCCATATATA	AGAGCAGAAG	TTGAAGACAA	TATCGTGGTA	3050
lyLeuLeuGl	yProTyrIle	ArgAlaGluV	alGluAspAs	nIleValVal	
ACTTTCAAAA	ACCAGGCCTC	TCGTCCCTAC	TCCTTCTATT	CTAGTCTTAT	3100
ThrPheLysA	snGlnAlaSe	rArgProTyr	SerPheTyrS	erSerLeuIl	
TTCTTATGAC	GAAGATGAGG	GACAAGGAGC	AGAACCTAGA	AGAAAGTTTG	3150
eSerTyrAsp	GluAspGluG	lyGlnGlyAl	aGluProArg	ArgLysPheV	
TCAACCCTAA	TGAAACCAAA	ATTTACTTTT	GGAAAGTGCA	GCATCATATG	3200
alAsnProAs	nGluThrLys	IleTyrPheT	rpLysValGl	nHisHisMet	
GCACCCACTA	AAGATGAGTT	TGACTGCAAA	GCCTGGGCTT	ATTTTTCTGA	3250
AlaProThrL	ysAspGluPh	eAspCysLys	AlaTrpAlaT	yrPheSerAs	
TGTTGATTTG	GAGAAAGATG	TGCACTCAGG	CTTGATTGGA	CCCCTTCTGA	3300
pValAspLeu	GluLysAspV	alHisSerGl	yLeuIleGly	ProLeuLeuI	
TCTGCCGCAG	TAACACACTG	AACCCTGCTC	ATGGGAGACA	AGTGACAGTG	3350
leCysArgSe	rAsnThrLeu	AsnProAlaH	isGlyArgGl	nValThrVal	
CAGGAGTTTG	CCCTGGTTTT	CACTATATTC	GATGAGACTA	AGAGCTGGTA	3400
GlnGluPheA	laLeuValPh	eThrIlePhe	AspGluThrL	ysSerTrpTy	
CTTCACTGAA	AACCTGGAAA	GGAACTGTAG	AGCTCCCTGC	AATGTCCAGA	3450
rPheThrGlu	AsnLeuGluA	rgAsnCysAr	gAlaProCys	AsnValGlnL	
AGGAGGACCC	TACTCTAAAA	GAAAACTTCC	GCTTCCATGC	AATCAACGGC	3500
ysGluAspPr	oThrLeuLys	GluAsnPheA	rgPheHisAl	aIleAsnGly	
TATGTGAAGG	ATACACTCCC	TGGCTTAGTA	ATGGCTCAGG	ATCAAAAGGT	3550
TyrValLysA	spThrLeuPr	oGlyLeuVal	MetAlaGlnA	spGlnLysVa	
TCGATGGTAT	CTGCTCAGCA	TGGGCAGCAA	CGAAACATT	CATTCCATTC	3600
lArgTrpTyr	LeuLeuSerM	etGlySerAs	nGluAsnIle	HisSerIleH	
ACTTCAGTGG	ACATGTGTTC	ACTGTACGGA	AAAAGAGGA	ATATAAAATG	3650
isPheSerGl	yHisValPhe	ThrValArgL	ysLysGluGl	uTyrLysMet	
GCAGTCTACA	ACCTCTATCC	AGGTGTTTT	GAGACTGTGG	AAATGCTACC	3700
AlaValTyrA	snLeuTyrPr	oGlyValPhe	GluThrValG	luMetLeuPr	
ATCCCAAGTT	GGAATCTGGC	GGATAGAATG	CCTTATCGGC	GAGCACCTGC	3750
oSerGlnVal	GlyIleTrpA	rgIleGluCy	sLeuIleGly	GluHisLeuG	
AAGCCGGGAT	GAGCACTCTG	TTTCTGGTGT	ACAGCAAGAA	GTGTCAGACT	3800
lnAlaGlyMe	tSerThrLeu	PheLeuValT	yrSerLysLy	sCysGlnThr	

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FIGURE 6 (cont.)

```
          10         20         30         40         50
  1234567890 1234567890 1234567890 1234567890 1234567890
  CCACTGGGGA TGGCTTCCGG ACACATTAGA GATTTTCAGA TTACAGCTTC    3850
  ProLeuGlyM etAlaSerGl yHisIleArg AspPheGlnI leThrAlaSe
  AGGACAATAT GGACAGTGGG CCCCAAAGCT GGCCAGACTT CATTATTCCG    3900
  rGlyGlnTyr GlyGlnTrpA laProLysLe uAlaArgLeu HisTyrSerG
  GATCAATCAA TGCCTGGAGC ACCAAGGATC CCTTTTCCTG GATCAAGGTG    3950
  lySerIleAs nAlaTrpSer ThrLysAspP roPheSerTr pIleLysVal
  GATCTCTTGG CACCGATGAT TATTCACGGC ATCATGACCC AGGGGGCCCG    4000
  AspLeuLeuA laProMetIl eIleHisGly IleMetThrG lnGlyAlaAr
  CCAGAAGTTC TCCAGCCTCT ACGTGTCTCA GTTTATCATC ATGTACAGTC    4050
  gGlnLysPhe SerSerLeuT yrValSerGl nPheIleIle MetTyrSerL
  TGGATGGCAA CAAGTGGCAC AGTTACCGAG GGAATTCCAC GGGGACCTTA    4100
  euAspGlyAs nLysTrpHis SerTyrArgG lyAsnSerTh rGlyThrLeu
  ATGGTCTTCT TTGGCAACGT GGATTCATCT GGGATCAAAC ACAATATTTT    4150
  MetValPheP heGlyAsnVa lAspSerSer GlyIleLysH isAsnIlePh
  TAACCCTCCG ATTATTGCTC AGTACATCCG TTTGCACCCA ACCCATTACA    4200
  eAsnProPro IleIleAlaG lnTyrIleAr gLeuHisPro ThrHisTyrS
  GCATCCGCAG CACTCTTCGC ATGGAGCTCT TGGGCTGTGA CTTCAACAGT    4250
  erIleArgSe rThrLeuArg MetGluLeuL euGlyCysAs pPheAsnSer
  TGCAGCATGC CGCTGGGGAT GGAGAGTAAA GCAATATCAG ATGCTCAGAT    4300
  CysSerMetP roLeuGlyMe tGluSerLys AlaIleSerA spAlaGlnIl
  CACTGCCTCG TCCTACCTAA GCAGTATGCT TGCCACTTGG TCTCCTTCCC    4350
  eThrAlaSer SerTyrLeuS erSerMetLe uAlaThrTrp SerProSerG
  AAGCCCGGCT GCACCTGCAG GGCAGGACTA ATGCCTGGAG ACCTCAGGCA    4400
  lnAlaArgLe uHisLeuGln GlyArgThrA snAlaTrpAr gProGlnAla
  AATAACCCAA AAGAGTGGCT GCAAGTGGAC TTCCGGAAGA CCATGAAAGT    4450
  AsnAsnProL ysGluTrpLe uGlnValAsp PheArgLysT hrMetLysVa
  CACAGGAATA ACCACCCAGG GGGTGAAATC TCTCCTCATC AGCATGTATG    4500
  lThrGlyIle ThrThrGlnG lyValLysSe rLeuLeuIle SerMetTyrV
  TGAAGGAGTT CCTCATCTCC AGTAGTCAAG ATGGCCATAA CTGGACTCTG    4550
  alLysGluPh eLeuIleSer SerSerGlnA spGlyHisAs nTrpThrLeu
  TTTCTTCAGA ATGGCAAAGT CAAGGTCTTC CAGGGAAACC GGGACTCCTC    4600
  PheLeuGlnA snGlyLysVa lLysValPhe GlnGlyAsnA rgAspSerSe
  CACGCCTGTG CGGAACCGTC TCGAACCCCC GCTGGTGGCT CGCTACGTGC    4650
  rThrProVal ArgAsnArgL euGluProPr oLeuValAla ArgTyrValA
  GCCTGCACCC GCAGAGCTGG GCGCACCACA TCGCCCTGAG GCTGGAGGTC    4700
  rgLeuHisPr oGlnSerTrp AlaHisHisI leAlaLeuAr gLeuGluVal
  CTGGGCTGCG ACACCCAGCA GCCCGCCTGA CCCGCGCCTC TGCGGCCCTG    4750
  LeuGlyCysA spThrGlnGl nProAla...
```

FIGURE 6 (cont.)

```
         10         20         30         40         50
1234567890 1234567890 1234567890 1234567890 1234567890
```

```
TCTCCCCTGC CTCCCTGCCC TGTCCCCGCG GCTTCCCATC AAGCTTATCG   4800

ATACCGTCGA GCGAGTTCTT CTGAGGGGAT CGGCAATAAA AAGACAGAAT   4850

AAAACGCACG GGTGTTGGGT CGTTTGTTCG GATCCAGATC TAGGAACCCC   4900

TAGTGATGGA GTTGGCCACT CCCTCTCTGC GCGCTCGCTC GCTCACTGAG   4950

GCCGCCCGGG CAAAGCCCGG GCGTCGGGCG ACCTTTGGTC GCCCGGCCTC   5000

AGTGAGCGAG CGAGCGCGCA GAGAGGGAGT GGCCAACCCC CCCCCCCCCC   5050

CCCCTGCAGC CCAGCTGCAT TAATGAATCG GCCAACGCGC GGGGAGAGGC   5100

GGTTTGCGTA TTGGGCGCTC TTCCGCTTCC TCGCTCACTG ACTCGCTGCG   5150

CTCGGTCGTT CGGCTGCGGC GAGCGGTATC AGCTCACTCA AAGGCGGTAA   5200

TACGGTTATC CACAGAATCA GGGGATAACG CAGGAAAGAA CATGTGAGCA   5250

AAAGGCCAGC AAAAGGCCAG GAACCGTAAA AAGGCCGCGT TGCTGGCGTT   5300

TTTCCATAGG CTCCGCCCCC CTGACGAGCA TCACAAAAAT CGACGCTCAA   5350

GTCAGAGGTG GCGAAACCCG ACAGGACTAT AAAGATACCA GGCGTTTCCC   5400

CCTGGAAGCT CCCTCGTGCG CTCTCCTGTT CCGACCCTGC CGCTTACCGG   5450

ATACCTGTCC GCCTTTCTCC CTTCGGGAAG CGTGGCGCTT TCTCAATGCT   5500

CACGCTGTAG GTATCTCAGT TCGGTGTAGG TCGTTCGCTC CAAGCTGGGC   5550

TGTGTGCACG AACCCCCCGT TCAGCCCGAC CGCTGCGCCT TATCCGGTAA   5600

CTATCGTCTT GAGTCCAACC CGGTAAGACA CGACTTATCG CCACTGGCAG   5650

CAGCCACTGG TAACAGGATT AGCAGAGCGA GGTATGTAGG CGGTGCTACA   5700
```

FIGURE 6 (cont.)

```
          10         20         30         40         50
  1234567890 1234567890 1234567890 1234567890 1234567890
  GAGTTCTTGA AGTGGTGGCC TAACTACGGC TACACTAGAA GGACAGTATT    5750

  TGGTATCTGC GCTCTGCTGA AGCCAGTTAC CTTCGGAAAA AGAGTTGGTA    5800

  GCTCTTGATC CGGCAAACAA ACCACCGCTG GTAGCGGTGG TTTTTTTGTT    5850

  TGCAAGCAGC AGATTACGCG CAGAAAAAAA GGATCTCAAG AAGATCCTTT    5900

  GATCTTTTCT ACGGGGTCTG ACGCTCAGTG GAACGAAAAC TCACGTTAAG    5950

  GGATTTTGGT CATGAGATTA TCAAAAAGGA TCTTCACCTA GATCCTTTTA    6000

  AATTAAAAAT GAAGTTTTAA ATCAATCTAA AGTATATATG AGTAAACTTG    6050

  GTCTGACAGT TACCAATGCT TAATCAGTGA GGCACCTATC TCAGCGATCT    6100
             ylGelIreS  ueL...siHo  rPlaV...gr  AueLreSgrA
  GTCTATTTCG TTCATCCATA GTTGCCTGAC TCCCCGTCGT GTAGATAACT    6150
  psAelIulGn  sAteMprTue  LnlGgrAlaV  ylGgrAgrAr  hTreSueL..
  ACGATACGGG AGGGCTTACC ATCTGGCCCC AGTGCTGCAA TGATACCGCG    6200
  .reSlaVorP  orPreSlaVt  eMnlGylGpr  TsiHnlGueL  reSlaValAu
  AGACCCACGC TCACCGGCTC CAGATTTATC AGCAATAAAC CAGCCAGCCG    6250
  eLylGlaVre  SlaVorPulG  ueLnsAelIu  eLueLueLyl  GalAueLgrA
  GAAGGGCCGA GCGCAGAAGT GGTCCTGCAA CTTTATCCGC CTCCATCCAG    6300
  ehPorPgrAa  lAsyCehPsi  HpsAnlGueL  syLelIgrAg  rAprTylGrh
  TCTATTAATT GTTGCCGGGA AGCTAGAGTA AGTAGTTCGC CAGTTAATAG    6350
  T......nsA  nsAylGorPu  eL...ueLue  LryThsAalA  ueL...ryTh
  TTTGCGCAAC GTTGTTGCCA TTGCTACAGG CATCGTGGTG TCACGCTCGT    6400
  sAalAsyCgr  AnlGnlGprT  nlG...ueLs  yCgrAorPrh  TlaVreSrhT
  CGTTTGGTAT GGCTTCATTC AGCTCCGGTT CCCAACGATC AAGGCGAGTT    6450
  rhTnlGryTo  rPsyLteM..  .reSgrAnsA  ylGlaVelIu  eLalAueL..
  ACATGATCCC CCATGTTGTG CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC    6500
  .teMelIylG  prTrhTrhTs  yCehPueLor  P...reSgrA  grApsAulGr
  GATCGTTGTC AGAAGTAAGT TGGCCGCAGT GTTATCACTC ATGGTTATGG    6550
  eSgrAnlG..  .ehPryTrhT  orPgrAueLr  hTelIlaV..  .orP...orP
  CAGCACTGCA TAATTCTCTT ACTGTCATGC CATCCGTAAG ATGCTTTTCT    6600
  ueLlaValAr  yThsAulG..  .nlG...alA  teMgrAueLe  lIreSsyLnl
  GTGACTGGTG AGTACTCAAC CAAGTCATTC TGAGAATAGT GTATGCGGCG    6650
  GreSnlGsiH  rhTreSueLp  rTrhTteMgr  AueLelIrhT  ryTalAalAl
```

- 7 -

FIGURE 6 (cont.)

```
              10         20         30         40         50
          1234567890 1234567890 1234567890 1234567890 1234567890
          ACCGAGTTGC TCTTGCCCGG CGTCAATACG GGATAATACC GCGCCACATA    6700
          aVreSnsAre SsyLylGorP rhTueLlaVo rPryTryTgr AalAlaVryT
          GCAGAACTTT AAAAGTGCTC ATCATTGGAA AACGTTCTTC GGGGCGAAAA    6750
          syCehPsyLu eLueLalA.. ....nlGehP laVnsAsyLo rPalAehPla
          CTCTCAAGGA TCTTACCGCT GTTGAGATCC AGTTCGATGT AACCCACTCG    6800
          VgrAueLreS grAlaValAr hTreSelIpr TnsAreSrhT laVprTulGs
          TGCACCCAAC TGATCTTCAG CATCTTTTAC TTTCACCAGC GTTTCTGGGT    6850
          iHlaVprTre SelIsyLueL teMsyL...s yL...prTgr AsyLnlGrhT
          GAGCAAAAAC AGGAAGGCAA AATGCCGCAA AAAAGGGAAT AAGGGCGACA    6900
          ueLueLehPu eLehPalAeh PsiHgrAueL ehPorPehPu eLorPreSla
          CGGAAATGTT GAATACTCAT ACTCTTCCTT TTTCAATATT ATTGAAGCAT    6950
          VreSelInsA ehPlaV...l
          TTATCAGGGT TATTGTCTCA TGAGCGGATA CATATTTGAA TGTATTTAGA    7000

          AAAATAAACA AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT    7050

          GACGTCTAAG AAACCATTAT TATCATGACA TTAACCTATA AAAATAGGCG    7100

          TATCACGAGG CCCTTTCGTC TCGCGCGTTT CGGTGATGAC GGTGAAAACC    7150

          TCTGACACAT GCAGCTCCCG GAGACGGTCA CAGCTTGTCT GTAAGCGGAT    7200

          GCCGGGAGCA GACAAGCCCG TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG    7250

          TCGGGGCTGG CTTAACTATG CGGCATCAGA GCAGATTGTA CTGAGAGTGC    7300

          ACCATATGCG GTGTGAAATA CCGCACAGAT GCGTAAGGAG AAAATACCGC    7350

          ATCAGGAAAT TGTAAACGTT AATATTTTGT TAAAATTCGC GTTAAATTTT    7400

          TGTTAAATCA GCTCATTTTT TAACCAATAG GCCGAAATCG GCAAAATCCC    7450

          TTATAAATCA AAAGAATAGA CCGAGATAGG GTTGAGTGTT GTTCCAGTTT    7500

          GGAACAAGAG TCCACTATTA AAGAACGTGG ACTCCAACGT CAAAGGGCGA    7550

          AAAACCGTCT ATCAGGGCGA TGGCCCACTA CGTGAACCAT CACCCTAATC    7600
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FIGURE 6 (cont.)

	10	20	30	40	50	
	1234567890	1234567890	1234567890	1234567890	1234567890	
AAGTTTTTTG	GGGTCGAGGT	GCCGTAAAGC	ACTAAATCGG	AACCCTAAAG		7650
GGAGCCCCCG	ATTTAGAGCT	TGACGGGGAA	AGCCGGCGAA	CGTGGCGAGA		7700
AAGGAAGGGA	AGAAAGCGAA	AGGAGCGGGC	GCTAGGGCGC	TGGCAAGTGT		7750
AGCGGTCACG	CTGCGCGTAA	CCACCACACC	CGCCGCGCTT	AATGCGCCGC		7800
TACAGGGCGC	GTCGCGCCAT	TCGCCATTCA	GGCTACGCAA	CTGTTGGGAA		7850
GGGCGATCGG	TGCGGGCCTC	TTCGCTATTA	CGCCAGCTGG	CTGCAGGGGG		7900
GGGGGGGGGG	GGGT					7914